

Format No. EME/LAB/Format 7.8/TR

Quarter October- November- December 2022

**Test Report**

Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12246/5
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist- Balaghat (M.P)	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Air
	Test Location	Near Chindi Tola Village
	Monitoring Done By	MITCON
	Date of Analysis	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/hrs.(Avg)	NNW

**RESULT**

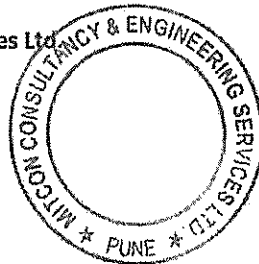
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	10.6	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	14.8	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	55.9	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	26.0	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	3.0	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.293	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	3.2	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

**REMARKS/OBSERVATIONS:**

- > All above results are within National Ambient Air Quality standards.
- > BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari*  
Checked By  
(Mrs.Kadambari Deshmukh)



*Sandeep*  
Authorized Signatory  
Dr. Sandeep Jadhav  
Senior vice president

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

<b>Client's Name &amp; Address</b>	<b>Reference No.</b>	MITCON/2022-23/December/12246/6
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist- Balaghat (M.P)	<b>Date of Monitoring</b>	30/11/2022
	<b>Type of Monitoring</b>	Ambient Air
	<b>Test Location</b>	Near Haul Road
	<b>Monitoring Done By</b>	MITCON
	<b>Date of Analysis</b>	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/ hrs.(Avg)	NNW

**RESULT**

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	12.4	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	16.8	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	63.4	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	32.0	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	4.8	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.414	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	4.9	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

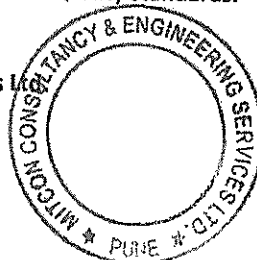
**REMARKS/OBSERVATIONS:**

- > All above results are within National Ambient Air Quality standards.
- > BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd

*Kadambari*  
 Checked By

(Mrs.Kadambari Deshmukh)



*(Signature)*  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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**Test Report**

Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12246/7
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist:- Balaghat (M.P)	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Air
	Test Location	Sand Bunker
	Monitoring Done By	MITCON
	Date of Analysis	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/ hrs.(Avg)	NNW

**RESULT**

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	11.8	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	16.3	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	59.6	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	28.2	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	4.0	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.310	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	4.6	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (NI)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

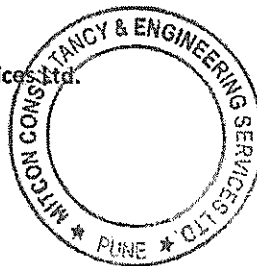
**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari*  
Checked By

(Mrs.Kadambari Deshmukh)



*[Signature]*  
Authorized Signatory  
Dr. Sandeep Jadhav  
Senior vice president

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**MITCON Consultancy & Engineering Services Ltd.**

Environment Management and Engineering Division

(Environmental Laboratory)

Agriculture College Campus, Next to DIC office, Shivaji Nagar, Pune. 411 005,

Ph. No. 66289405/400, email: emelab@mitconindia.com

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Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12246/8
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist-Balaghat (M.P)	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Air
	Test Location	Near Explosive Magazine
	Monitoring Done By	MITCON
	Date of Analysis	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/hrs.(Avg)	NNW

**RESULT**

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	11.0	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	16.6	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	56.7	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	26.0	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	3.2	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.310	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	3.4	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

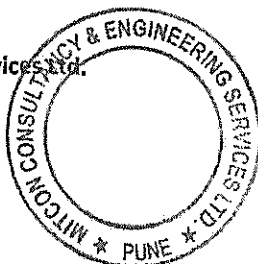
**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy &amp; Engineering Services Ltd.

*Kadambari*  
Checked By

(Mrs.Kadambari Deshmukh)



*Dr. Sandeep Jadhav*  
Authorized Signatory

Dr. Sandeep Jadhav  
Senior vice president

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12246/9
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist- Balaghat (M.P)	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Noise
	Monitoring Done By	MITCON

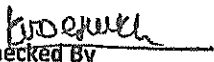
**READINGS**

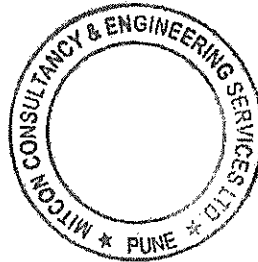
Sr. No.	Test Location	Unit	Readings
01	Near Chindhi Tola Village	dB(A)	53.0
02	Near Pit office II Vertical shaft	dB(A)	68.0
03	Vertical Fan	dB(A)	70.3
04	Haul Road	dB(A)	56.8


**REMARKS / OBSERVATIONS:**

Limits: The Madhya Pradesh Pollution Control Board has prescribe 75 dB (A) as an upper limit of Noise Level during daytime.

For MITCON Consultancy & Engineering Services Ltd.

  
Checked By  
(Mrs. Kadambari Deshmukh)



  
Authorized Signatory  
Dr. Sandeep Jadhav  
(Senior Vice President)

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Quarter October- November- December 2022

**Test Report**

Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12246/1
	Name of Sample	Ground Water
	Sample Details	Chindhi Tola Village Open Dugwell
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
End Date of Analysis	09/12/2022	

**ANALYSIS RESULTS**

Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.24	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	242.8	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	121.4	mg/l	≤ 200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	30.35	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	15.17	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO3	101.4	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	29.22	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	14.78	mg/l	≤ 200	APHA 4500-SO4--E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	3.05	mg/l	≤ 45	APHA 4500 NO3-B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

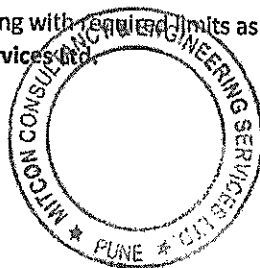
**REMARKS / OBSERVATIONS:**

- The above water sample is complying with required limits as per IS 10500:2012.

For MITCON Consultancy & Engineering Services Ltd.

Checked By Kadambhari

(Mrs. Kadambhari Deshmukh)



Authorized Signatory  
(Dr. Sandeep Jadhav)  
Senior Vice President

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**Test Report**

Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12246/2
	Name of Sample	Ground Water
	Sample Details	Dugwell Near Pit office
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
End Date of Analysis	09/12/2022	

**ANALYSIS RESULTS**

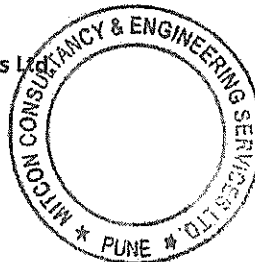
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.19	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	267.5	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	133.75	mg/l	≤ 200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	33.43	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	16.71	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO3	113.75	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	29.01	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	14.90	mg/l	≤ 200	APHA 4500 -SO4--E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	3.80	mg/l	≤ 45	APHA 4500 NO3-B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

**REMARKS / OBSERVATIONS:**

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari*  
Checked By

(Mrs. Kadambari Deshmukh)



*(Signature)*  
Authorized Signatory  
(Dr. Sandeep Jadhav)  
Senior Vice President

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Issue Date:09/12/2022

Client's Name & Address	Sample Details
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist:- Balaghat (M.P)	Sample Code
	Name of Sample
	Sample Details
	Container Details
	Sample Collected By
	Method of sampling
	Sample Collected On
	Date of Sample Receipt
	Analysis Start Date
	End Date of Analysis

**ANALYSIS RESULTS**

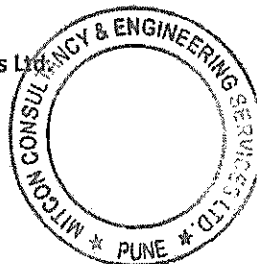
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.20	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	<5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	<1	NTU	≤1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	265.1	mg/l	≤500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	132.55	mg/l	≤200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	33.13	mg/l	≤75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	16.56	mg/l	≤30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	<0.1	mg/l	<0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO3	112.55	Mg/l	<200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	<0.1	Mg/l	<1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	34.12	mg/l	≤250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	17.93	mg/l	≤200	APHA 4500 -SO4- -E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	<0.05	mg/l	≤0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	4.01	mg/l	≤45	APHA 4500 NO3-B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	<5	HZ	≤5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

**REMARKS / OBSERVATIONS:**

For MITCON Consultancy &amp; Engineering Services Ltd.

Checked By

(Mrs. Kadambari Deshmukh)



Authorized Signatory

(Dr. Sandeep Jadhav)

Senior Vice President

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Format No. EME/LAB/Format 7.8/TR

Quarter October- November- December 2022

**Test Report**

Report Number : MITCON/2022-23/December/12246

Issue Date:09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L3=48.974 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12246/4
	Name of Sample	Waste Water
	Sample Details	Near Mine seepage II Vertical
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
	End Date of Analysis	09/12/2022

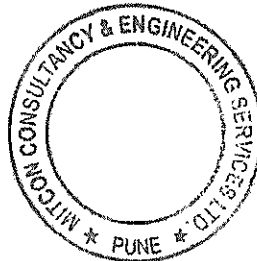
**ANALYSIS RESULTS**


Sr. No.	Characteristic	Results	Unit	Permissible Limit as per Consent Condition	Test Methods
01	pH at 25°C	7.21		5.5 to 9.0	APHA 4500 H+ A, 4-95, 23rd Ed. 2017
02	Dissolved Oxygen	3.4	mg/l	--	IS: 3025 Part 38
03	Chemical Oxygen Demand	52.3	mg/l	250	APHA 5220 C,5-20 to 5-21 23 <sup>rd</sup> Ed 2017
04	Biochemical Oxygen	17.8	mg/l	30	IS :3025 (Part 44)
05	Total suspended solids	22.7	mg/l	100	APHA 2540 D,2-70 to 2-71 23 <sup>rd</sup> Ed 2017
06	Oil and grease	<5	mg/l	10	APHA 5520 B,5-42 to 5-43 23 <sup>rd</sup> Ed 2017
07	Manganese	0.32	mg/l	2	APHA 3111 B,3-18 to 3-21 23 <sup>rd</sup> Ed 2017

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services Ltd.

  
Checked By  
(Mrs. Kadambari Deshmukh)



  
Authorized Signatory  
(Dr. Sandeep Jadhav)  
Senior Vice President

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

<b>Client's Name &amp; Address</b>	<b>Reference No.</b>	MITCON/2022-23/December/12245/6
<b>M/s MOIL LIMITED,</b>  <b>Ukwa Manganese Mines L2=69.581 Ha Site, Dist- Balaghat (M.P)</b>	<b>Date of Monitoring</b>	30/11/2022
	<b>Type of Monitoring</b>	Ambient Air
	<b>Test Location</b>	Near Vertical Shaft II
	<b>Monitoring Done By</b>	MITCON
	<b>Date of Analysis</b>	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/hrs.(Avg)	NNW

**RESULT**

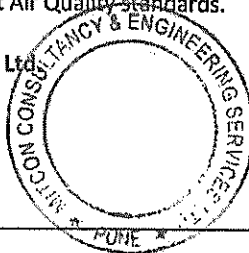
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	12.0	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	15.4	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	59.6	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	27.8	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	4.0	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.314	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	4.4	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari*  
 Checked By  
 (Mrs.Kadambari Deshmukh)



*SD*  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

<b>Client's Name &amp; Address</b>	<b>Reference No.</b>	<b>MITCON/2022-23/December/12245/7</b>
<b>M/s MOIL LIMITED,</b>  <b>Ukwa Manganese Mines L2=69.581 Ha Site, Dist- Balaghat (M.P)</b>	<b>Date of Monitoring</b>	30/11/2022
	<b>Type of Monitoring</b>	Ambient Air
	<b>Test Location</b>	Near Substation
	<b>Monitoring Done By</b>	MITCON
	<b>Date of Analysis</b>	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/ hrs.(Avg)	NNW

**RESULT**

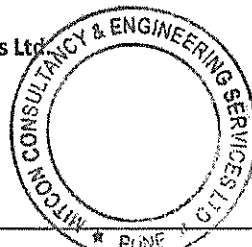
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	11.0	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	14.2	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	58.7	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	25.9	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	3.8	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.302	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	4.3	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari*  
 Checked By  
 (Mrs.Kadambari Deshmukh)



*(Signature)*  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

Client's Name & Address  M/s MOIL LIMITED,  Ukwa Manganese Mines L2=69.581 Ha Site, Dist:- Balaghat (M.P)	Reference No.	MITCON/2022- 23/December/12245/8
	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Air
	Test Location	Near Admin Building
	Monitoring Done By	MITCON
	Date of Analysis	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/ hrs.(Avg)	NNW


**RESULT**

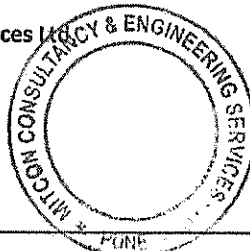
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	10.8	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	13.6	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	56.8	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	26.4	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	3.0	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.314	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	3.2	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

  
 Checked By  
 (Mrs.Kadambari Deshmukh)



  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

<b>Client's Name &amp; Address</b>	<b>Reference No.</b>	MITCON/2022-23/December/12245/9
M/s MOIL LIMITED,  Ukwa Manganese Mines L2=69.581 Ha Site, Dist-Balaghat (M.P)	<b>Date of Monitoring</b>	30/11/2022
	<b>Type of Monitoring</b>	Ambient Air
	<b>Test Location</b>	Near Weigh Bridge
	<b>Monitoring Done By</b>	MITCON
	<b>Date of Analysis</b>	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/hrs.(Avg)	NNW

**RESULT**

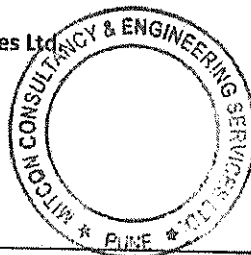
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	13.1	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	17.2	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	61.2	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	30.0	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	4.5	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.338	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	4.8	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari*  
 Checked By  
 (Mrs.Kadambari Deshmukh)



*Sandeep*  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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Test Report

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12245/10
M/s MOIL LIMITED,  Ukwa Manganese Mines L2=69.581 Ha Site, Dist- Balaghat (M.P)	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Noise
	Monitoring Done By	MITCON

READINGS

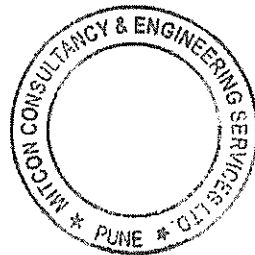
Sr. No.	Test Location	Unit	Readings
01	Jack Hammer Drill (1650 level)	dB(A)	70.0
02	Dumper Loaded at workshop	dB(A)	68.9
03	Near Vertical shaft	dB(A)	71.0
04	Compressor House II	dB(A)	67.2


**REMARKS / OBSERVATIONS:**

Limits: The Madhya Pradesh Pollution Control Board has prescribe 75 dB (A) as an upper limit of Noise Level during daytime.

For MITCON Consultancy & Engineering Services Ltd.

  
Checked By  
(Mrs. Kadambari Deshmukh)



  
Authorized Signatory  
Dr. Sandeep Jadhav  
(Senior Vice President)

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L2=69.581 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12245/1
	Name of Sample	Waste Water (Mine Seepage water)
	Sample Details	Mine Seepage water
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
	End Date of Analysis	09/12/2022

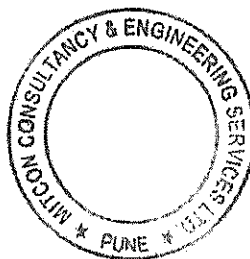
**ANALYSIS RESULTS**


Sr. No.	Characteristic	Results	Unit	Permissible Limit as per Consent Condition	Test Methods
01	pH at 25°C	7.23	-	5.5 to 9.0	APHA 4500 H+ A, 4-95, 23rd Ed. 2017
02	Dissolved Oxygen	4.0	mg/l	-	IS: 3025 Part 38
03	Chemical Oxygen Demand	44.0	mg/l	250	APHA 5220 C,5-20 to 5-21 23rd Ed 2017
04	Biochemical Oxygen	16.2	mg/l	30	IS :3025 (Part 44)
05	Total suspended solids	22.0	mg/l	100	APHA 2540 D,2-70 to 2-71 23rd Ed 2017
06	Oil and grease	< 5	mg/l	10	APHA 5520 B,5-42 to 5-43 23rd Ed 2017
07	Manganese	0.39	mg/l	2	APHA 3111 B,3-18 to 3-21 23rd Ed 2017

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services Ltd.

  
 Checked By  
 (Mrs. Kadambari Deshmukh)



  
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 (Dr. Sandeep Jadhav)  
 Senior Vice President

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**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022


Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L2=69.581 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12245/2
	Name of Sample	Waste Water
	Sample Details	ETP Inlet
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
End Date of Analysis	09/12/2022	

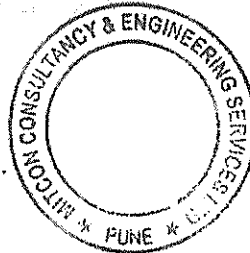
**ANALYSIS RESULTS**


Sr. No.	Characteristic	Results	Unit	Test Methods
01	pH at 25°C	6.90	-	APHA 4500 H+ A, 4-95, 23rd Ed. 2017
02	Dissolved Oxygen	2.1	mg/l	IS: 3025 Part 38
03	Chemical Oxygen Demand	385.2	mg/l	APHA 5220 C,5-20 to 5-21 23rd Ed 2017
04	Biochemical Oxygen	71.8	mg/l	IS :3025 (Part 44)
05	Total suspended solids	85.0	mg/l	APHA 2540 D,2-70 to 2-71 23rd Ed 2017
06	Oil and grease	12.3	mg/l	APHA 5520 B,5-42 to 5-43 23rd Ed 2017
07	Manganese	0.64	mg/l	APHA 3111 B,3-18 to 3-21 23rd Ed 2017

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services Ltd.

  
Checked By  
(Mrs. Kadambari Deshmukh)



  
Authorized Signatory  
(Dr. Sandeep Jadhav)  
Senior Vice President

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(Environmental Laboratory)

Agriculture College Campus, Next to DIC office, Shivaji Nagar, Pune. 411 005,  
Ph. No. 66289405/400, email: emelab@mitconindia.com

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Solutions for Sustainable Tomorrow

Format No. EME/LAB/Format 7.8/TR

**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

Client's Name & Address		Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L2=69.581 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12245/3	
	Name of Sample	Waste Water	
	Sample Details	ETP Outlet	
	Container Details	1 lit plastic can	
	Sample Collected By	MITCON	
	Method of sampling	IS 3025(Part I)	
	Sample Collected On	30/11/2022	
	Date of Sample Receipt	02/12/2022	
	Analysis Start Date	02/12/2022	
End Date of Analysis	09/12/2022		

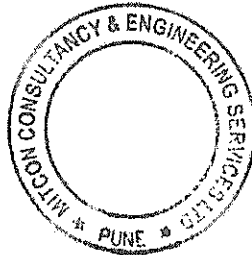
**ANALYSIS RESULTS**


Sr. No.	Characteristic	Results	Unit	Permissible Limit as per Consent Condition	Test Methods
01	pH at 25°C	7.29	-	5.5 to 9.0	APHA 4500 H+ A, 4-95, 23rd Ed. 2017
02	Dissolved Oxygen	3.5	mg/l	-	IS: 3025 Part 38
03	Chemical Oxygen Demand	71.2	mg/l	250	APHA 5220 C,5-20 to 5-21 23rd Ed 2017
04	Biochemical Oxygen	21.4	mg/l	30	IS :3025 (Part 44)
05	Total suspended solids	23.0	mg/l	100	APHA 2540 D,2-70 to 2-71 23rd Ed 2017
06	Oil and grease	< 5	mg/l	10	APHA 5520 B,5-42 to 5-43 23rd Ed 2017
07	Manganese	0.28	mg/l	2	APHA 3111 B,3-18 to 3-21 23rd Ed 2017

REMARKS / OBSERVATIONS:

For MITCON Consultancy & Engineering Services Ltd.

  
Checked By  
(Mrs. Kadambari Deshmukh)



  
Authorized Signatory  
(Dr. Sandeep Jadhav)  
Senior Vice President

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**Quarter October- November- December 2022****Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

Client's Name & Address		Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L2=69.581 Ha Site, Dist- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12245/4	
	Name of Sample	Ground Water	
	Sample Details	Lugma Village open Dugwell No. I	
	Container Details	1 lit plastic can	
	Sample Collected By	MITCON	
	Method of sampling	IS 3025(Part I)	
	Sample Collected On	30/11/2022	
	Date of Sample Receipt	02/12/2022	
	Analysis Start Date	02/12/2022	
	End Date of Analysis	09/12/2022	

**ANALYSIS RESULTS**

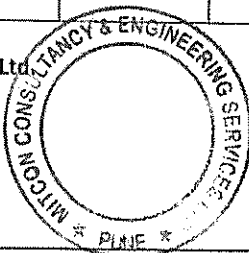
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 250C	7.24	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	260.3	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	130.15	mg/l	≤ 200	APHA 2540 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	32.53	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	16.26	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO3	110.25	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	29.2	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	14.6	mg/l	≤ 200	APHA 4500 -SO4- -E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	4.01	mg/l	≤ 45	APHA 4500 NO3-B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

**REMARKS / OBSERVATIONS:**

For MITCON Consultancy &amp; Engineering Services Ltd.

Checked By

(Mrs. Kadambari Deshmukh)



Authorized Signatory

(Dr. Sandeep Jadhav)

Senior Vice President

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12245

Issue Date:09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines I.2-69.581 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12245/5
	Name of Sample	Drinking water
	Sample Details	2 <sup>nd</sup> Vertical shop open dugwell
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
	End Date of Analysis	09/12/2022

**ANALYSIS RESULTS**

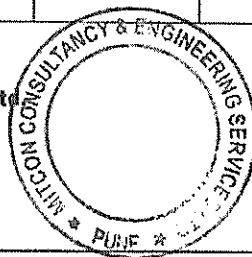
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 250C	7.20	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	244.1	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO <sub>3</sub>	122.3	mg/l	≤ 200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	30.49	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	15.17	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO <sub>3</sub>	102.4	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	32.4	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO <sub>4</sub>	16.2	mg/l	≤ 200	APHA 4500 -SO <sub>4</sub> - E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO <sub>3</sub>	3.9	mg/l	≤ 45	APHA 4500 NO <sub>3</sub> -B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

**REMARKS / OBSERVATIONS:**

For MITCON Consultancy & Engineering Services Ltd

Checked By *Kadambari*

(Mrs. Kadambari Deshmukh)



*(Signature)*

Authorized Signatory  
 (Dr. Sandeep Jadhav)  
 Senior Vice President

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

<b>Client's Name &amp; Address</b>	<b>Reference No.</b>	MITCON/2022-23/December/12244/5
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist-Balaghat (M.P)	<b>Date of Monitoring</b>	30/11/2022
	<b>Type of Monitoring</b>	Ambient Air
	<b>Test Location</b>	Near Nagra Plant
	<b>Monitoring Done By</b>	MITCON
	<b>Date of Analysis</b>	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/hrs.(Avg)	NNW

**RESULT**

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	11.2	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	15.8	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	62.8	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	27.0	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	4.2	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.320	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	4.4	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

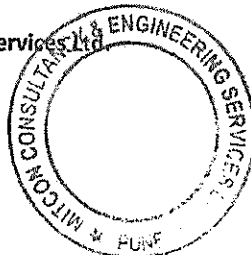
**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd

*Kadambari*  
 Checked By

(Mrs.Kadambari Deshmukh)



*Sandeep Jadhav*  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

<b>Client's Name &amp; Address</b>	<b>Reference No.</b>	MITCON/2022-23/December/12244/6
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist- Balaghat (M.P)	<b>Date of Monitoring</b>	30/11/2022
	<b>Type of Monitoring</b>	Ambient Air
	<b>Test Location</b>	Near Ukwa Village
	<b>Monitoring Done By</b>	MITCON
	<b>Date of Analysis</b>	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration in Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/hrs.(Avg)	NNW

**RESULT**

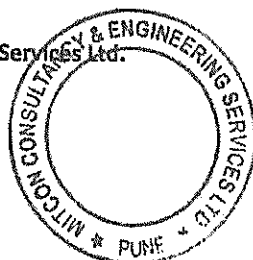
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	10.6	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	15.2	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	54.8	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	26.7	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	3.4	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.214	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	3.8	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

**REMARKS/OBSERVATIONS:**

- > All above results are within National Ambient Air Quality standards.
- > BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari Deshmukh*  
 Checked By  
 (Mrs.Kadambari Deshmukh)



*Dr. Sandeep Jadhav*  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12244/7
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist- Balaghat (M.P)	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Air
	Test Location	Near Vertical
	Monitoring Done By	MITCON
	Date of Analysis	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/ hrs.(Avg)	NNW

**RESULT**

Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	11.8	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	16.7	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	64.9	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	30.4	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	4.4	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.360	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	4.5	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS

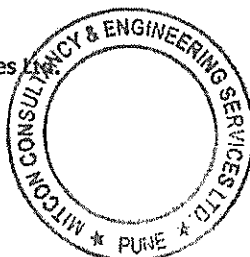
**REMARKS/OBSERVATIONS:**

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- > BDL: - Below Detection Limit.

For MITCON Consultancy &amp; Engineering Services Ltd.

*Kadambari*  
Checked By

(Mrs.Kadambari Deshmukh)



*Sandeep Jadhav*  
Authorized Signatory  
Dr. Sandeep Jadhav  
Senior vice president

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**Test Report**

Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

<b>Client's Name &amp; Address</b>	<b>Reference No.</b>	MITCON/2022-23/December/12244/8
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist-Balaghat (M.P)	<b>Date of Monitoring</b>	30/11/2022
	<b>Type of Monitoring</b>	Ambient Air
	<b>Test Location</b>	Near Work Shop
	<b>Monitoring Done By</b>	MITCON
	<b>Date of Analysis</b>	02/12/2022

**OBSERVATION**

Ambient Temp. °C	Dry Bulb Temp. °C	Wet Bulb Temp. °C	Relative Humidity % RH	Sampling Duration In Min	Rainfall (mm)	Wind Velocity	Wind Direction
28	28	11	50	1440	0.0	3.0 km/ hrs.(Avg)	NNW


**RESULT**

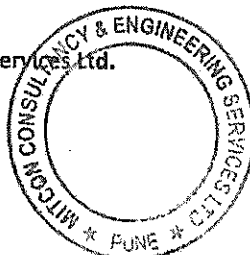
Sr. No.	Description	Unit	Results	CPCB standard	Test Method
01	Sulphur Dioxide (SO <sub>2</sub> )	µg/M <sup>3</sup>	13.4	≤80	IS 5182(Part 2)
02	Oxides of Nitrogen (NO <sub>2</sub> )	µg/M <sup>3</sup>	18.0	≤ 80	IS 5182(Part 6)
03	Particulate Matter PM <sub>10</sub> micron	µg/M <sup>3</sup>	67.4	≤ 100	IS 5182 (Part 23)
04	Particulate Matter PM <sub>2.5</sub> micron	µg/M <sup>3</sup>	34.5	≤ 60	USEPA 40 CFRCH
05	Ozone (O <sub>3</sub> )	µg/M <sup>3</sup>	4.7	≤ 100	IS 5182
06	Lead (Pb)	µg/M <sup>3</sup>	BDL	≤ 1.0	APHA - AAS
07	Carbon Monoxide (CO)	mg/M <sup>3</sup>	0.386	≤ 2.0	IS 5182
08	Ammonia (NH <sub>3</sub> )	µg/M <sup>3</sup>	5.0	≤ 400	APHA - 401
09	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/M <sup>3</sup>	BDL	≤ 5	IS 5182
10	Benzo(a)Pyrene (BaP)	ng/ M <sup>3</sup>	BDL	≤ 1	IS 5182
11	Arsenic (As)	ng/ M <sup>3</sup>	BDL	≤ 6	APHA - AAS
12	Nickel (Ni)	ng/ M <sup>3</sup>	BDL	≤ 20	APHA - AAS


**REMARKS/OBSERVATIONS:**

- All above results are within National Ambient Air Quality standards.
- BDL: - Below Detection Limit.

For MITCON Consultancy & Engineering Services Ltd.

  
 Checked By  
 (Mrs.Kadambari Deshmukh)



  
 Authorized Signatory  
 Dr. Sandeep Jadhav  
 Senior vice president

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

Client's Name & Address	Reference No.	MITCON/2022-23/December/12244/9
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist:- Balaghat (M.P)	Date of Monitoring	30/11/2022
	Type of Monitoring	Ambient Noise
	Monitoring Done By	MITCON


**READINGS**

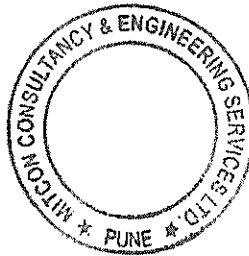
Sr. No.	Test Location	Unit	Readings
01	Jack Hammer Drill	dB(A)	72.4
02	Dumper Loaded	dB(A)	70.8
03	Ventilation Fan	dB(A)	71.3
04	Compressor House 1	dB(A)	64.9


**REMARKS / OBSERVATIONS:**

Limits: The Madhya Pradesh Pollution Control Board has prescribe 75 dB (A) as an upper limit of Noise Level during daytime.

For MITCON Consultancy & Engineering Services Ltd.

  
Checked By  
(Mrs. Kadambari Deshmukh)



  
Authorized Signatory  
Dr. Sandeep Jadhav  
(Senior Vice President)

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines LI=199.067 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12244/1
	Name of Sample	Ground Water
	Sample Details	Mine office drinking water
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
	End Date of Analysis	09/12/2022

**ANALYSIS RESULTS**

Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.21	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	237.1	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO <sub>3</sub>	118.5	mg/l	≤ 200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	29.61	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	14.81	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO <sub>3</sub>	98.5	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	26.0	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO <sub>4</sub>	13.2	mg/l	≤ 200	APHA 4500 -SO <sub>4</sub> - -E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO <sub>3</sub>	9.1	mg/l	≤ 45	APHA 4500 NO <sub>3</sub> -B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

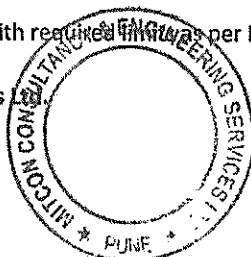
**REMARKS / OBSERVATIONS:**

- The above water sample is complying with required limits per IS 10500:2012.

For MITCON Consultancy & Engineering Services

Checked By

(Mrs. Kadambari Deshmukh)



Authorized Signatory  
 (Dr. Sandeep Jadhav)  
 Senior Vice President

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**Quarter October- November- December 2022**

**Test Report**

Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12244/2
	Name of Sample	Ground Water
	Sample Details	Ukwa Village Open Dug well
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
End Date of Analysis	09/12/2022	

**ANALYSIS RESULTS**

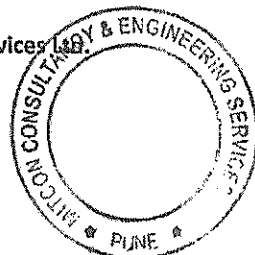
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.17	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	274.5	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	137.4	mg/l	≤ 200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	34.25	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	17.12	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO3	117.8	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	32.4	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	16.8	mg/l	≤ 200	APHA 4500-SO4--E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	6.0	mg/l	≤ 45	APHA 4500 NO3-B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

**REMARKS / OBSERVATIONS:**

For MITCON Consultancy & Engineering Services Ltd.

Checked By

(Mrs. Kadambari Deshmukh)



Authorized Signatory  
 (Dr. Sandeep Jadhav)  
 Senior Vice President

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**Test Report**

Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12244/3
	Name of Sample	Ground water
	Sample Details	Gudma Camp Open Dug well
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
	End Date of Analysis	09/12/2022

**ANALYSIS RESULTS**

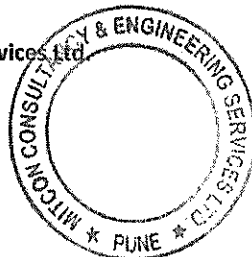
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.19	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part-10 (R.A : 2002)
04	Total Dissolved Solids	218.9	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	109.3	mg/l	≤ 200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	27.25	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	13.62	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as Caco3	91.5	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	29.4	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	15.1	mg/l	≤ 200	APHA 4500 -SO4 -E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	3.9	mg/l	≤ 45	APHA 4500 NO3-B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

**REMARKS / OBSERVATIONS:**

For MITCON Consultancy & Engineering Services Ltd

Checked By

(Mrs. Kadambari Deshmukh)



Authorized Signatory

(Dr. Sandeep Jadhav)

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Report Number : MITCON/2022-23/December/12244

Issue Date: 09/12/2022

Client's Name & Address	Sample Details	
M/s MOIL LIMITED,  Ukwa Manganese Mines L1=199.067 Ha Site, Dist:- Balaghat (M.P)	Sample Code	MITCON/2022-23/December/12244/4
	Name of Sample	Ground Water
	Sample Details	New Mine colony Hand pump
	Container Details	1 lit plastic can
	Sample Collected By	MITCON
	Method of sampling	IS 3025(Part I)
	Sample Collected On	30/11/2022
	Date of Sample Receipt	02/12/2022
	Analysis Start Date	02/12/2022
	End Date of Analysis	09/12/2022

**ANALYSIS RESULTS**

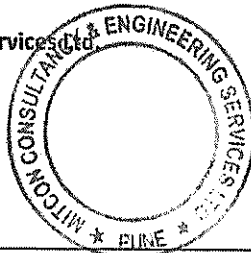
Sr. No.	Parameters	Results	Unit	Limits as per IS 10500:2012	Test Methods
01	pH at 25C	7.21	-	6.5 to 8.5	APHA 4500 H+, A, 4-95, 23rd Ed 2017
02	Total suspended solids	< 5	mg/l	N.S	APHA 2540 D, 2-70 to 2-71 23rd ed 2017
03	Turbidity	< 1	NTU	≤ 1	IS: 3025 Part:10 (R.A : 2002)
04	Total Dissolved Solids	244.5	mg/l	≤ 500	APHA 2540 C, 2-69 to 2-70, 23rd Ed 2017
05	Total Hardness as CaCO3	122.25	mg/l	≤ 200	APHA 2340 C, 2-48 to 2-50, 23rd Ed 2017
06	Calcium as Ca	30.56	mg/l	≤ 75	APHA 3500 Ca B, 3-69 to 3-70, 23rd Ed. 2017
07	Magnesium as Mg	15.29	mg/l	≤ 30	APHA 3500 Mg B, 3-86, 23rd Ed. 2017
08	Manganese as mn	< 0.1	mg/l	< 0.1	APHA 3111 B, 3-18 to 3-21 23rd Ed. 2017
09	Total Alkalinity as CaCO3	102.3	Mg/l	< 200	APHA 2320 B, 2-37 to 2-39 23rd Ed 2017
10	Fluoride as F	< 0.1	Mg/l	< 1	APHA 4500 F- D 4-90 to 4-91 23rd Ed 2017
11	Chloride as Cl	29.41	mg/l	≤ 250	APHA 4500 Cl, B, 4-75 to 4-76, 23rd Ed 2017
12	Sulphate as SO4	15.01	mg/l	≤ 200	APHA 4500-SO4- -E, 4-199 TO 4-200, 23rd Ed 2017
13	Iron as Fe	< 0.05	mg/l	≤ 0.3	APHA 3111 B, 3-18 TO 3-21, 23rd Ed 2017 (using AAS)
14	Nitrate as NO3	4.12	mg/l	≤ 45	APHA 4500 NO3-B, 4-127 23rd Ed 2017
15	E.coli	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
16	Total Coliform	Absent	MPN/100ml	Absent	IS: 1622 (R.A : 2014)
17	colour	< 5	HZ	≤ 5	IS: 3025 Part-4 (Rev.1, RA 2012)
18	odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part-5 (Rev.1, RA 2012)

**REMARKS / OBSERVATIONS:**

For MITCON Consultancy & Engineering Services Ltd.

*Kadambari*  
Checked By

(Mrs. Kadambari Deshmukh)



*(Signature)*  
Authorized Signatory  
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